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**PARADIGM SHIFT: PARALLELS IN THE ORIGIN, EVOLUTION
AND FUNCTION OF THE STRATEGIC GROUP CONCEPT WITH
THE RESOURCE-BASED THEORY OF THE FIRM ¹**

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**PARADIGM SHIFT: PARALLELS IN THE ORIGIN, EVOLUTION
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Abstract

This paper demonstrates that the strategic group concept has interesting parallels with the resource-based concept of the firm as a collection of resources. In particular, there is correspondence between the two concepts in terms of their origin, evolution and function. Both the resource-based and strategic group literatures are moving toward increased integration of economic, behavioral and cognitive research. These trends in the resource-based and strategic group debates reflect a paradigm shift in strategic management that is moving toward a synthesis of economic, behavioral and cognitive perspectives.

Introduction

McGee and Thomas note that: "strategic group analysis has interesting parallels with the theory of the growth of the firm as first articulated by Downie [1958], Penrose [1959] and Marris [1964] more than twenty years ago" (1986: 157). While McGee and Thomas (1986) suggest links between strategic group analysis and resource-based analysis, this paper clarifies how they are connected. In particular, both the strategic group concept and the concept of the firm as a "collection of resources" (Penrose, 1959) have parallels in terms of their origin, evolution and function.

Consideration of origin, evolution and function not only provides insight for connecting the strategic group concept with the concept of the firm as a collection of resources (e.g., human, physical, relational, intellectual) but it also clarifies the concepts when studied separately. Indeed, some social scientists argue that a full explanation of concepts (or institutions) requires attention to their origin, evolution and function (Elster, 1983; Langlois, 1986; Ullmann-Margalit, 1978). The origin of the resource-based concept and strategic group concept considers how each concept emerged. An evolutionary-functional argument suggests the processes that sustain the concept once established and delineates the usefulness (function) of the concept. To use Kaplan's (1964) terms, to more fully understand a concept we must investigate both its logic-in-use (the logic of the creation of a concept, i.e., its origin) and its reconstructed logic (the logic of justification, i.e., its function).

The motivation for this paper stems from the debate that has emerged among strategy researchers concerning the relative merits of the resource-based and strategic group perspectives in assessing strategy within an industry¹. Such discussions are often an asset to the evolution of an academic discipline (Boland, Thomas & Pondy, 1988; Bowman, 1990). The debate is especially warranted in this case since the resource-based and strategic group perspectives inform one another.

The task of this paper is both analytic and synthetic -- laying out the parts of the resource-based and strategic group concepts and moving toward a synthesis by delineating their parallels in

origin, evolution and function. Section 1 discusses the economic origins of the resource-based and strategic group concepts and focuses on the parallels between the two concepts. Section 2 considers the evolution and function of the strategic group concept in the strategic management field, including the role of cognitive groupings in strategy formation (Porac, Thomas, Wilson, Paton & Michaelson, 1993). Section 3 describes the evolution and function of the resource-based theory of the firm, focusing once again on the parallels between the strategic group concept and the resource-based concept of the firm as a collection of resources. Section 4 considers future research directions arising from an integrated perspective. Patterns of inquiry within strategic management concerning both resource-based and strategic group concepts are moving toward a synthesis of economic, behavioral, and cognitive research -- an approach advocated by Barney (1992), Eisenhardt (1989), Porac and Thomas (1990), and Zajac (1992), among others.

Section 1: Origins of the Strategic Group and Resource-based Concepts

This section provides evidence for a singular point: both the strategic group concept and the resource-based concept have economic origins motivated by dissatisfaction with industrial organization economics and microeconomics. We consider first the origins of the strategic group concept and then discuss the origins of the resource-based concept.

Origins of the Strategic Group Concept. The structure-conduct-performance (S-C-P) approach deserves the designation of a paradigm. Originating in the Harvard School of industrial economics (Bain, 1956, 1968; Mason, 1957), the S-C-P paradigm posits a causal relationship wherein an exogenous industry structure determines firm strategy or "conduct", which, in turn, determines performance. Industry structure variables include: number of sellers and buyers, barriers to entry, cost structures, vertical integration, diversification, and product differentiation². Strategic or conduct variables include: pricing behavior, product strategy and advertising, research and innovation, plant investment, and legal tactics. Performance variables include: production and allocative efficiency,

progress, full employment, and equity³. However, contrary to the belief of some in strategic management, the Harvard School was not the only school of industrial organization thought that informed the emerging field of strategy.

In the 1950's the Chicago School of industrial organization began to raise doubts about the S-C-P paradigm. By the 1960's and early 1970's this revisionist Chicago School (Stigler, 1968), with its emphasis on applied price theory, gradually gained the upper hand in industrial organization (I.O.) research and developed a new theoretical perspective (Demsetz, 1974). Specifically, the followers of this tradition did not impute anti-competitive purposes to complex or unfamiliar business practices. Instead, the principal object of management may have been (cost-saving) efficiencies (Coase, 1937, 1960).

The industrial organization debate led to some polarization between these "two systems of belief" (Demsetz, 1974). However, some I.O. groups in the 1970s did maintain a balance. For example, at the University of Pennsylvania, Almarin Phillips and Oliver Williamson "shaped an [industrial organization] curriculum that had somewhat non-standard features" (Williamson, 1986, p. xiv). Williamson (1975, 1985) does not follow either party line (i.e., Harvard or Chicago). In some areas there is close alignment to Chicago School efficiency arguments (e.g., efficiencies of vertical contracts and vertical mergers), while in other areas Harvard School views are supported (e.g., capital market imperfections induce organizational responses, such as the M-form).

Phillips (1970) questioned the theoretical underpinnings of the Harvard S-C-P paradigm. Instead of structure determining strategy, Phillips (1970) suggests strategy (conduct) can determine industry structure, and this insight could be applied to a variety of structural variables well established in the S-C-P paradigm. Auerbach summarizes and extends Phillips' critique of S-C-P suggesting that: "the behavior of participants in a market can never be determined exclusively by a set of market parameters which are exogenous to this behavior" (1988: 46).

By the mid-1970s the S-C-P paradigm of the Harvard School was under large-scale attack. This attack provided motivation for the development of the strategic group concept. From an I.O. perspective, strategic group analysis was an attempt to rescue S-C-P (in the wake of theoretical criticism and Hunt's [1972] observation of persistent strategic, firm-level heterogeneity in the home appliance industry) by combining structural and strategic (behavioral) variables (Caves & Porter, 1977). *Thus, the strategic group concept may be understood as an adaptive response by Harvard School industrial organization economists to the growing dissatisfaction with the S-C-P paradigm.*

Origins of the Resource-based Concept. While the strategic group concept was motivated by the growing dissatisfaction with the structure-conduct-performance paradigm of I.O. economics, the resource-based concept had parallel origins as it emerged from a dissatisfaction with neoclassical economics for handling real-world problems of the firm that were outside of an equilibrium context. While the 1950's witnessed some departures from Harvard's S-C-P paradigm, it also witnessed some departures from neoclassical microeconomics. Boulding referred to the neoclassical firm as "a strange bloodless creature without a balance sheet, without any visible capital structure, without debts, and engaged apparently in the simultaneous purchase of inputs and sales of outputs at constant rates" (1950: 34).

In the midst of this growing dissatisfaction with neoclassical economics, Edith Tilton Penrose provided a new conceptual schema for the firm as "both an administrative organization and as a collection of resources" (1959: 31). Penrose (1959) noted that the neoclassical theory of the firm is a conceptual schema designed for the theory of price determination and resource allocation but she insisted that it is "inappropriate to try to reconcile [the neoclassical theory of the firm] with 'organization theory'" (1959: 14). In particular, Penrose makes explicit that the resource-based perspective is a distinct conceptual schema for the purpose of understanding the process of growth of

the firm. *Thus, the resource-based concept of the firm as a collection of resources can be understood as a response to the inadequacies of microeconomics for dealing with dynamic growth processes.*

While some economists were instrumental in the evolution of both the resource-based and strategic group concepts, for the most part the development, refinement and use of these concepts has taken place in strategic management. In fact, of the three leading textbooks in industrial organization economics (Carlton & Perloff, 1990; Scherer & Ross, 1990; Tirole, 1988), only Scherer and Ross (1990) discusses Penrose's (1959) resource-based concept and the strategic group concept. Thus, while this section highlights the economic origin of the strategic group and resource-based concepts, the evolution of these concepts, considered in the next two sections, has largely taken place in strategic management. Section 2 considers the evolution of the strategic group concept and section 3 discusses the parallel evolution of the resource-based concept.

Section 2: The Evolution and Function of the Strategic Group Concept

While debate about the stylized S-C-P paradigm continued in industrial organization economics in the mid-1970s, the field of Strategy began to emerge as a separate discipline. Indeed, Porter (1980), following Phillips (1970), essentially rewrote the structure-conduct-performance chain as conduct (strategy)-structure-performance. Porter (1980: 129) also proposed the strategic group concept for explaining and predicting firm conduct and performance. Porter's (1980) perspective represents an evolutionary change of S-C-P concepts since Mason (1957)-Bain (1968) and marks the beginning of an identifiable paradigm shift in industry and strategic group analysis.

Continuing the conceptual development in strategic management, McGee (1985) asserts that the strategic group concept provides a bridge and a linkage between industry structure and firm-level strategy. Our view, however, is broader than McGee's. We see the evolution and use of the strategic group concept being better described as one of "dual citizenship". The strategic group

concept has enriched both industry-level analysis and firm-level analysis, and the concept can provide explanatory and predictive power for both conduct (strategy) and performance.

The emerging alternate foci of strategic group research illustrate the dual citizenship status of the strategic group concept. On the one hand, working from the S-C-P paradigm, Porter (1980) begins with the industry as the basic unit of analysis and then moves to a more disaggregate unit of analysis -- the strategic group. Conversely, many strategic management researchers have taken the firm as the basic unit of analysis (Rumelt, 1984, 1991) and then have aggregated firms into strategic groups (Cool & Schendel, 1988; Hatten & Schendel, 1977; Fiegenbaum & Thomas, 1990)⁴. Distinctive research methodologies parallel the conceptual differences: one may obtain strategic groups starting from the industry unit of analysis by sorting techniques or starting with the firm unit of analysis by "joining methods" (e.g., cluster programs⁵).

Despite the revealed preference of most strategy researchers for the second approach to strategic groups, there remains a perception among some in organization science that strategy researchers adhere strictly to the Harvard I.O. view. In that view, Caves & Porter (1977), following Hunt (1972), describe strategic groups as an amalgam of (1) volitional, behavioral, and strategic factors (as the name "strategic groups" suggests, pp. 249-257); (2) structural factors derived from the S-C-P tradition (e.g., degree of vertical integration; and level of product differentiation, p. 251) and (3) imperfect capital markets (following the Harvard School I.O. tradition, pp. 246-247). Thus in the I.O. view, strategic groups, supported by their mobility barriers, are partly structural and partly endogenous (p. 241). Or put differently, strategic groups are determined partly by the competitive environment and partly by strategic choice.

However, others drew different inferences from Hunt's (1972) groupings. Strategic group analysis appeals to strategists because of its focus on the patterns of emergent strategies across an industry (Bogner & Thomas, 1994; Mintzberg, 1978) and the representation of firm-level interaction

among close rivals (Cool, 1985). With the dimensions strategy researchers have added to the basic concepts of heterogeneity in an industry, firms may be mapped in strategic space in terms of level of strategy, components of strategy (e.g., scope and resource commitment), as well as time period (Fiegenbaum & Thomas, 1990).

In strategic management, the evolution and function of the strategic group concept considers the following questions: (1) How does strategic group membership change over time?; (2) Does a firm's performance depend upon strategic group membership?; and (3) How do strategic groups emerge? (Barney & Hoskisson, 1990; Bogner & Thomas, 1993; McGee & Thomas, 1989; Tang & Thomas, 1992; Thomas & Venkatraman, 1988). This section briefly considers the first two questions, but focuses mainly on the third question. This focus arises from the debate sparked by Barney and Hoskisson's (1990) questioning about the very existence of strategic groups (Hatten & Hatten, 1987; Tang & Thomas, 1992).

How do firms change strategic group membership? The strategic group concept has evolved from a static to a dynamic concept (Cool, 1985; Hatten, Schendel & Cooper, 1978). Dynamic research on strategic groups shows periods of industry turbulence, involving changes in group membership, as well as temporal periods of group stability. These stable time periods are broken by environmental discontinuity, as well as by member firms' active attempts at Schumpeterian "creative destruction" or competence-destroying change (Cool & Schendel, 1987; Fiegenbaum, Sudharshan & Thomas, 1987; Fiegenbaum & Thomas, 1990). These dynamic perspectives employ turbulence, environmental change and opportunistic responses to suggest a perpetual pattern of group formation, repositioning and deterioration.

At times of radical strategic change, firms in some groups are disproportionately impacted and those groups' members respond to change more than firms in other groups (Bogner & Pandian, 1992). These impacted groups are defined by the similar past resource commitments of their

members, and it is precisely these commitments which lead to their differential response to change. Thus, the resulting changes in the industry-wide pattern of competition reflect both prior strategic choices and the nature of environmental change. The dynamic studies show limited individual firm movements (perhaps of the competence-enhancing variety, depending on the industry studied) through times of stability and change, underscoring the larger fact that clustering captures similar (but not identical) firm-based resource accumulation and deployment (Bogner, 1991).

Firm Performance Due To Strategic Group Membership. Expectations concerning firm-level performance represent another area where the strategy perspective differs from the S-C-P paradigm in I.O. The I.O. view of deterministic managerial behavior is supplemented by the strategic choice perspective (Child, 1972; Robins, 1992). Thus, firm performance can vary widely within each group due to the general managers' various abilities to develop resources and to exploit opportunities efficiently and effectively in competition. As a result, firm profits will be a function of two components, namely, the skills of the firm's management in exploiting competitive opportunities (Aaker, 1989) and the intensity of rivalry among firms (Porter, 1980). The strategies of the group per se are not the sole basis of firm profitability and profit differences between groups need not exist (Bogner, 1991; Nayyar, 1989). For example, strategic groups consisting of firms with similar (but not identical) resources and strategies may lead to zero economic profits in a monopolistically competitive industry.

On the other hand, strategic group membership can have an effect on profits if there exist mobility barriers based on sunk cost investments⁶ and if there is oligopolistic collusion (Dranove, Peteraf & Shanley, 1993). Thus, strategic group structure may influence conditions of rivalry and hence, firm performance (Cool & Dierickx, 1993). While we concur that under certain demand conditions, collusive conduct in combination with sunk cost investments is sufficient for superior performance by strategic group members, intended oligopolistic collusion is not necessary for

sustaining superior strategic group profitability. The sustainability of strategic group profitability does not necessarily derive from the strategic intent of group members. Here our argument is a derivative of the work of both Hayek (1978) and Mintzberg (1978). To be sure, a mobility barrier is a collective good for strategic group members (Caves & Ghemawat, 1992), but such a collective good can be maintained without collective coordination. The upshot is that collusion is not necessary for the strategic group concept to be meaningful for explaining and predicting superior performance. Moreover, under certain competitive scenarios, we should not expect performance differences across groups. Indeed, performance differences may be higher within strategic groups than across strategic groups.

How do strategic groups emerge? While the development of frameworks for capturing strategic group dynamics and the development of models to provide the necessary and sufficient conditions for strategic group effects on performance are current areas of activity in strategy, these do not explain how strategic groups form. Indeed, Barney and Hoskisson (1990), Hatten and Hatten (1987) and others, challenge the very idea that strategic groups exist. The response developed in this section is that the evolution and use of the strategic group concept include economic, behavioral and cognitive approaches (Tang & Thomas, 1992; Thomas & Carroll, 1994).

The Economic and Behavioral Theory of Strategic Group Emergence. In the economic approach, a strategic group is defined as: "A set of firms competing within an industry on the basis of similar combinations of scope and resource commitments" (Cool & Schendel, 1987: 1106, emphasis added). Strategic investments are at the core of strategic group formation⁷ (Cool & Schendel, 1988; Fiegenbaum & Thomas, 1990; McGee & Thomas, 1989). Resources are acquired and developed in a path dependent process (Teece, Pisano & Shuen, 1993) and investments are often made to develop (or overcome) isolating mechanisms (Lippman & Rumelt, 1982). Firms making similar investments

develop similar, but not identical, stocks of competitive resources; they pursue similar customers and environmental opportunities.

These rivals are captured together in strategic groups. Across an industry, different groups of firms emerge in order to take advantage of different pockets of consumer demand or to fill anticipated gaps in the product space. Firms are clustered into heterogeneous groups in product and/or resource space along strategic dimensions. Consistent with the resource-based theory discussed below, this view of strategic formation considers a firm's behavior in competition as both facilitated by, and constrained by, the firm's resource commitments (Collis, 1991; Dierickx & Cool, 1989). Hence, strategic groups capture both the opportunities and limitations for future strategic firm choices based on both their firm-level asset stocks (Dierickx & Cool, 1989) and the viable competitive alternatives available in an industry (McGee & Thomas, 1986).

Strategic management theory suggests that while strategic groups may result from collusion among its members, they primarily arise from "emergent patterns" (e.g., patterns of resource commitments) that develop across an industry over time. For example, concepts such as discount retailing, supermarkets, and fast food restaurants all emerged as viable competitive postures or "benchmarks" (Fiegenbaum, Hart & Schendel, 1993) in industries where they did not previously exist. As firms dedicated resources to these postures over time, their resource bases both reinforced competition in an emerging group and curtailed their ability to compete in other ways.

This firm-level analysis of similar resource commitments (that provide both opportunities and constraints to firms) provides a contrast to the collusive view of mobility barriers held in I.O. In the Harvard School tradition, Caves and Porter (1977) refer to mobility barriers as "a collective capital good" of a strategic group that may be maintained by concerted action (e.g., formal and tacit collusion). They also briefly mention that strategic groups may form as part of the competitive process. In this section, this often neglected aspect of strategic group formation is emphasized.

In the strategy perspective, groups may develop mobility barriers as the result of similar individual firm resource commitments, not as the result of collective group coordination (Hayek, 1978). For example, spatial competition models provide examples of strategic groups emerging from the process of competition (Tang & Thomas, 1992). In fact, Zajac and Jones (1993) note that even direct intragroup competition can be viewed as having a cooperative intragroup outcome. For example, Coke and Pepsi's competitive moves may have a cooperative intragroup outcome relative to other soft drink firms. Thus, Coke and Pepsi may be motivated to invest in sunk cost advertising as an isolating mechanism to achieve firm rents, but the collective effect of Coke and Pepsi's advertisements may be a "collective good" mobility barrier. Different groups, therefore, represent the different sets of resource commitments of their members. Because these commitments vary between groups, mobility barriers can clearly be asymmetric with some firms blockaded from certain niches while other firms may have the ability to position themselves almost anywhere in strategic space (Hatten & Hatten, 1987).

The economic and behavioral approach to the emergence (formation) of strategic groups suggests: (1) Strategic groups (and mobility barriers) can form by direct or tacit collusion among firms; (2) Alternatively, strategic groups (and mobility barriers) emerge in the process of competition where individual firm behaviors lead to a "collective good" mobility barrier for the strategic group (as the above Coke and Pepsi example illustrates); (3) Most likely, individual firm behaviors lead to similar resource accumulations that both enable and constrain managerial actions by group members in similar ways; and (4) Strategic groups can even exist in competition where mobility barriers are absent (e.g., spatial competition models and "polymorphic equilibrium").

The fourth argument is particularly interesting. Hallagan and Joerding (1983) demonstrate that natural selection can lead to an equilibrium where otherwise identical profit-maximizing firms follow different strategies. In biology such an occurrence is called a **polymorphic equilibrium**.

This construct is critical for destroying the myth of one appropriate strategy that is often suggested in stylized economic settings. A polymorphic equilibrium highlights a contingency view of strategy (Bogner, 1991). For example, a strategic group of advertising firms and a strategic group of non-advertising firms can co-exist with equal profits in a polymorphic equilibrium. Strategic groups can exist without mobility barriers and without profit differences (Tang & Thomas, 1992). Two important ideas that should be taken from this analysis are: (1) mobility barriers are not needed for strategic group membership and (2) the CEOs of two firms with identical objectives, identical resources (and even identical mental models) do not necessarily follow identical strategies in markets with heterogeneity in consumer preferences.

The potential emergence of strategic groups is not only robust to a wide range of economic assumptions (as noted above) but the strategic group concept is also supported by behavioral approaches as well. Phillips (1960, 1962), for example, suggests that the behavioral code of interfirm organization may be the result of conscious decisions and express communication but it may easily arise as unconscious sensitivity to certain stimuli or a learned response based on past experience. One could extend Phillips' behavioral theory to the study of strategic groups.

The Cognitive Approach to Strategic Group Formation. The study of cognitive strategic groups has emerged uniquely in the strategy literature. This perspective can enrich the theory of how analytically identified groups form and why they tend to remain stable. Clearly, mental models or "frames" at the cognitive level become intertwined with routines at the behavioral level. Thus, firm strategies can be considered the interrelationship between managerial cognition (the articulable and tacit mental models of decision makers) and "conduct" (e.g., resource conversion activities). In addition to ascertaining strategic groups by using constructs of strategic behavior, and resource accumulation and deployment, strategy researchers also do so by using frameworks of managerial cognition⁸ (Porac & Thomas, 1990). The cognitive approach represents a new perspective, one not

derived from any of the I.O. schools, but one that is tightly linked to strategic management's roots in the decision process (Cyert & March, 1963; Quinn, 1980). The focus on the role of the manager in developing the concept of mental models requires the subjective considerations of strategic management rather than the more positivist presumptions of I.O. economics. It is through cognition that managerial behavior becomes enacted. Thus, to exclude this cognitive construction and its potential for different interpretations, whether by an individual manager or by a consensus of the top management team, is to revert to the deterministic S-C-P paradigm of a mechanistic manager.

A cognitive approach has been utilized for discerning strategic groups in retailing (Porac & Thomas, 1994), banking and financial services (Fombrun & Zajac, 1987; Reger, 1988; Reger & Huff, 1993; Walton, 1986), the clothing industry (McNamee & McHugh, 1989) and Scottish knitwear (Porac, Thomas & Baden-Fuller, 1989; Porac, Thomas, Wilson, Paton & Michaelson, 1993). Managers are seen as engaging in intra-group rivalry not just because of similar supply-side characteristics among group members competing for the demand-side distribution of customers, but also because of strongly held and shared cognitive models of who competes with whom and on what competitive dimensions their competition takes place. When these socially constructed cognitive models remain stable for a sufficient time period then a "cognitive community" can be identified (Porac & Thomas, 1990; Thomas & Carroll, 1994).

Porac, Thomas & Baden-Fuller (1989) show how managers following similar strategies, share strong cognitive frames of how all firms in the industry should compete based on historical resource patterns and geographic location. Conversely, when members of a cognitive community deviate from others in terms of resource deployments, significant consternation results for some community members. This relationship between managerial cognition and behavior suggests the possibility of relating the use of cognitive models to consequences of the deployment of resources (Walsh, 1992).

For example, Barr, Stimpert & Huff (1992) trace the changes in the cognitive maps of top managers in two railroads and the consequences of these maps for strategic change.

Porac and Thomas (1990) and Reger and Huff (1993) suggest that strategists will think in terms of clusters of competitors to cognitively simplify a complex environment. Individuals can focus on phenomena and categorize them hierarchically according to prototypical attributes (Rosch, 1978; Walton, 1986). Alternatively, individuals can frame phenomena uniquely using personal construct theory (Kelly, 1955). Thus, the mental models represent, however formed, a conceptualization of strategic groups in the minds of the strategist (Boeker, 1991; Fombrun & Zajac, 1987; Huff, 1982; Reger, 1990a). This conceptualization is often quite similar to that of customers, competitors, suppliers, government regulators, and academic researchers. For example, Reger & Huff's (1993) study of the 18 largest bank holding companies headquartered in Chicago uses personal construct theory (Kelly, 1955) and its related methodology, the repertory grid technique (Dunn & Ginsberg, 1986; Fransella & Bannister, 1977; Reger, 1990b) to demonstrate that strategic groups are readily perceived by strategists. Thus, their study, alongside the cognitive community research of Porac, Thomas and Baden-Fuller (1989), provides evidence that strategic groups are more than analytical conveniences used by researchers. They are an important part of the way firms' strategists organize and make sense of their competitive environment. Indeed, the competitive environment provides real constraints that set limits to what cognitive models can contain. Furthermore, commonalities among firms should also be expected due to institutional isomorphism and inertia (Powell & DiMaggio, 1991). And, when the unique sets of resources of the firm prove to be a successful resource package then such resource combinations are emulated in competition by cross-firm learning.

Therefore, strategic groups are viewed as cognitive communities in which members learn and develop knowledge. Cognitive models or "knowledge structures" (Lyles & Schwenk, 1992) serve to

define expected relationships and behaviors. Thus, cognitive processes reinforce economic imperatives (e.g., industry structure, resource commitments) in the formation of strategic groups.

Cognitive and economic imperatives converge due to simplification and elaboration processes in categorization (Reger & Huff, 1993) as well as convergent expectations (Malmgren, 1961). In this view, strategic groups are "structures of mutual expectation" (Weick, 1979). In addition, common sources of information (Porac, Thomas & Emme, 1987), industry recipes (Huff, 1982, 1990; Porac, Thomas & Baden-Fuller; Spender, 1989), tacit knowledge (Polanyi, 1962) and competitive and cooperative behaviors stabilize shared cognitive models (i.e., cognitive groups). Cognitive groups tend to reinforce (economic-based) strategic groups in a **circular flow**⁹.

Dramatizing the existence of cognitive models that cluster firms into groups illustrates another way of capturing intra-industry competition. But resource accumulations and cognitive models are not just parallel conceptualizations of grouped firms. They are linked in a continually looping causal chain of managerial cognition, firm conduct, and industry structure as depicted in Figure 1 below. This interrelationship is predicated on the perpetual, iterative nature of the strategy formation process (Mintzberg, 1978). Strategy formation involves a continuous process of collecting and ordering information from the competitive environment. Indeed, the very process of environmental searching and information processing are themselves dependent on the cognitive models of managers. By placing the cognitive perspective within the dynamic economic theory of strategic groups that has emerged in strategic management, a system of managerial behavior and group dynamics emerges that employs a system of enactment at a group level (Porac, Thomas, Wilson, Paton & Michaelson 1993; Weick, 1979). In this system, perceptions of existing rivalry patterns (cognitive models) influence subsequent strategic resource allocations and hence accumulations. Thus, strategic groups represent similar resource accumulations and deployments and similar cognitive models, as well as the outcome

of dynamic interaction between resources and cognitive models over time (Bogner & Thomas, 1993; Thomas & Carroll, 1994).

Fiengenbaum (1987) models a dynamic interaction process between resource allocations and managerial cognition at a group level. The concept of a reference point or benchmark within each strategic group represents the cognitive perception of the desired strategy by any firm for competing within that group. Fiengenbaum (1987) presents a partial-adjustment model for showing how resource allocations by a firm reflect its manager's cognitive reference point (and, of course, reinforces it) as the firm attempts to shift its resource posture toward these idealized positions (Fiengenbaum & Thomas, 1993). Logically, the more strongly these reference points are shared by group members the more tightly the cognitive and competitive strategies of the group members will converge over time. Generally, our argument suggests a pragmatic perspective that emphasizes the complex transaction between cognition and behavior. Specifically in this context, resource accumulations and deployments are intertwined with cognitive models. Figure 1 provides our integrated economic, behavioral and cognitive perspective to illustrate the evolution of strategy beyond the simple S-C-P paradigm.

Insert Figure 1 about here

In concluding this section on the existence of strategic groups, our position is that while it is not unreasonable to describe the strategic group as an "analytic convenience" (Hatten & Hatten, 1987), we are inclined to describe the strategic group concept in strategic management research as a theoretical construct derived from the literature on (1) strategic choice and endogenous mobility barriers such as economies of scale, experience-related cost asymmetries, contractual commitments, product differentiation and irreversible (sunk cost) investments (Gilbert, 1989; Oster, 1990; Porter, 1991; Tang & Thomas, 1992); (2) different organizational structures determining different strategic

behavior and the ability to execute strategies (Chandler, 1962); (3) path dependencies (historical developments) of firms with different resource endowments and vintages of technologies (and hence different cost functions) responding to exogenous technological factors or changes in demand (Arthur, 1989; Tang, 1984, 1988); (4) lumpy market conditions (i.e., discrete niches), high transaction costs and sticky resources that influence later strategic behavior (Anderson & Lawless, 1993; Chang & Choi, 1988); (5) spatial competition¹⁰ in which strategic groups exist when sunk costs are relatively modest in a product differentiable market (Tang & Thomas, 1992); (6) differential risk preferences and firm objectives¹¹ (Baird, Sudharshan & Thomas, 1988; Porter, 1979); (7) game-theoretic formulations¹² (Kumar, 1987; Kumar, Thomas & Fiegenbaum, 1990); and (8) cognitive taxonomies (Porac & Thomas, 1990; Porac, Thomas, Wilson, Paton & Michaelson, 1993).

Section 3: The Evolution and Function of the Resource-based Concept of the Firm as a Collection of Resources

The resource-based theory of the firm is also a dynamic representation of a firm's efforts to position itself in an industry. Resources are the basic unit of analysis (Grant, 1991b) and may be classified under a few headings -- for example, financial, human, intangible, organizational, physical, and technological (Grant, 1991a; Hall, 1992; Hofer & Schendel, 1978) -- but the essential concept is that the sub-division of resources may proceed as far as is useful for the problem at hand (Penrose, 1959). The resource-based theory not only captures the content of a "continuing search for rent" (Bowman, 1974: 47) but also the process through which managers pursue that rent over time through resource allocation decisions and learning (Schoemaker, 1993). For example, the firm may make better use of human resources by correctly assigning workers to where they have higher productivity in the firm (Prescott & Visscher, 1980; Tomer, 1987), and the firm may make better allocations of financial resources toward high yield uses (Williamson, 1985). In this section we demonstrate that

the evolution and function of the resource-based concept runs parallel with the strategic group concept in terms of its integration of economic, behavioral and cognitive approaches.

The Economic and Behavioral Foundations of the Resource-based Theory. Stated in terms of outcomes, in the resource-based theory the persistence of firm profits is the result of a combination of unique historical conditions (Barney, 1991), firm-specific resources (i.e., sunk cost commitments) (Caves, 1984; Williamson, 1975), uncertain imitability due to causal ambiguity and social complexity (Demsetz, 1973; Lippman & Rumelt, 1982, Powell, 1992), time compression diseconomies (Dierickx & Cool, 1989), difficulties in selling information coupled with opportunism (Teece, 1982), and legal restrictions (e.g., patents, trademarks, copyrights), all of which prevent competitors from sufficiently matching an established firm's rent-generating collection of resources. Core competencies and superior organizational routines in one or more of the firm's value-chain functions may enable the firm to generate rents from a resource advantage (Hitt & Ireland, 1985; Prahalad & Hamel, 1990). Core competencies are a function of the tacit understandings (Polanyi, 1962), skills, and resources that a firm accumulates over time and that satisfies customer needs better than competitors.

Different types of rents suggest different strategic behaviors for firms. Ricardian rents (Ricardo, 1817) are based on the possession and development of scarce and valuable resources (Barney, 1991; Peteraf, 1993b). Monopoly rents may be derived from collusion and government cooptation (Conner, 1991). Composite quasi-rents (Klein, Crawford & Alchian, 1978) may be appropriated in bilateral monopoly situations that can commonly arise when co-specialized resources are involved (Teece, 1990). Finally, Schumpeterian rents may be derived from successful entrepreneurship (Rumelt, 1987).

Since the generation and maintenance of rents is arguably a major theme of strategic management research (Rumelt, Schendel & Teece, 1991) it is hardly surprising that the strategy field

is attracted to dynamic theories such as Schumpeter's (1934) as well as resource-based theory (Penrose, 1959). Williamson (1991) notes the uncertainty of whether the dynamic capabilities approach (Nelson & Winter, 1982; Prahalad & Hamel, 1990; Rumelt, 1984; Schumpeter, 1934; Teece, 1982) and the resource-based approach (Barney, 1991; Farjoun, 1993; Wernerfelt, 1984) will play out individually or in combination. We argue that the two approaches naturally blend into each other (Amit & Schoemaker, 1993; Mahoney & Pandian, 1992; Schoemaker, 1990).

Resource-based development is a dynamic race that is scenario dependent. Changing consumer demands and managerial choices provide both opportunities and threats for future resource development in a path dependent process (Arthur, 1988). But future choices are determined by both the firm's and competitors' resource levels. Indeed, the concepts of isolating mechanisms (Reed & DeFillippi, 1990; Rumelt, 1984), invisible assets (Itami & Roehl, 1987), firm capabilities (Leonard-Barton, 1992; Nelson, 1991), and managerial capabilities (Lado, Boyd & Wright, 1992) require a comparative analysis of competitors' resource bases and environmental opportunities.

A resource-based theory of the firm, therefore, brings us back to the same variety of basic I.O. concepts from which the strategic group literature developed. For example, Mahoney and Pandian's (1992) presentation of the wide variety of forms that isolating mechanisms may take, suggests a similar variety of choices for managers. Some isolating mechanisms are regarded as effective for sustaining rents derived from the S-C-P paradigm of the Harvard School, while a large number of isolating mechanisms are also drawn from the Chicago School's emphasis on efficiency.

Schumpeter's (1934) focus on new, alternative deployments of resources as the source of economic rents recognizes the alternative competitive postures that different firms can seek within the same industry (see also, Nelson & Winter (1982) and Teece, Pisano & Shuen (1993)). When multiple firms pursue alternative strategic options across an industry they produce the patterns that strategic groups capture. In Penrose (1959), as well, we see firm resources being used to explain a firm's

posture in the competitive environment. Here the nature of excess resources and managerial skills direct the choices made (Chatterjee, 1990; Montgomery & Hariharan, 1991). Importantly, both Schumpeter (1934) and Penrose (1959) provide a basis for explaining the actions of individual firms that dynamic groups seek to capture. Similar (but not identical) firms act in similar ways. Over time their similar resource allocation decisions lock them in rivalry for similar customers.

Isolating mechanisms in the resource-based theory conceptualize barriers to imitation at the firm-level while the strategic groups literature captures the same objective with the concept of mobility barriers. Both isolating mechanisms and mobility barriers can include commitments that constrain the firm from switching to another strategy. The concept of a strategic group suggests firms that have made similar commitments may often face similar constraints. Table 1 illustrates the parallel development of the resource-based and strategic group concepts.

Insert Table 1 about here

Cognition in the Resource-based Theory. Resource-based theory involves not only "bundles of resources" (Rumelt, 1984; Wernerfelt, 1984) but also competition between heterogeneous "mental models" that give resource bundles meaning. Fiol (1991) points out that it is through cognition that managers make sense of both their resources and those of their competitors. The mental models of managers, like resource stocks and flows, are dynamic concepts that are influenced by learning (Lant, Milliken and Batra, 1992; Fiol and Lyles, 1985) and memory (Walsh and Ungson, 1991). Mental models, therefore, play a critical role in directing the path of the resource accumulation process (Barr, Stimpert & Huff, 1992). Managerial skills (and mental models) in combination with other firm resources can jointly produce rents (Castanias & Helfat, 1991). Mental models, and firm-level routines can be distinctive assets when they can be employed to perform tasks, interpret stimuli, or orchestrate behavior better than competitors.

In fact, these two sources of firm heterogeneity in resource-based theory--resources and mental models -- are interrelated. For example, a rich connection among the firm's resources, distinctive competencies (Selznick, 1957) and managers' mental models drive the diversification process (Ginsberg, 1990; Grant, 1988; Prahalad & Bettis, 1986). Penrose argues that unused productive services of resources "shape the scope and direction of the search for knowledge" (1959, p.77). Current resources and capability profiles (Ansoff, 1965: 76) serve as "cognitive drivers" for future strategy (Itami & Numagami, 1992). The iterative sequence of perception and behavior across the industry result in mental models of rivalry. In a stable environment the mental models are more likely to be strategic group specific where cognitive communities can be identified (Porac & Thomas, 1990). In more turbulent environments, the mental models are more likely to be firm-specific (or person-specific) (Levenhagen, Porac & Thomas, 1994).

Section 4: An Integrative Perspective

We suggest that an integrative economic, behavioral and cognitive perspective, observed in both the strategic group and resource-based literatures, represents an emerging strategic management paradigm. The dominant logic driving this emergence in the field of strategy also represents a dramatic paradigm shift from traditional I.O. theory that was divorced from (behavioral and cognitive) psychology¹³. This paradigm shift is resulting in a combined economic, behavioral and cognitive approach that integrates theories of competition arising from industry, strategic group and firm-specific foundations.

In strategic group literature, some scholars have studied groups in terms of resource scope and deployments and strategic behavior, while other scholars have studied cognitive models. The unique research that is emerging from this literature is that both resource accumulation and cognitive models provide insight for understanding complex phenomena (Bogner & Thomas, 1993; Thomas & Carroll, 1994). Similarly, in the resource-based literature the heterogeneity of the firm has been

studied as a "bundle of resources" (Wernerfelt, 1989) and as a "bundle of mental models" (Barr, Stimpert & Huff, 1992). As with strategic groups, the research that is emerging from the resource-based literature resides at the interface among economic, behavioral and cognitive approaches (Mahoney, 1992, 1993; Porac & Thomas, 1990; Zajac, 1992).

Combining cognitive, behavioral and economic approaches involves a resource learning theory of the firm as originally advocated by Penrose (1959). Best (1990) notes that: "Penrose's framework gives integrity to the firm as an organization in which experience and teamwork play explanatory roles" (1990: 25). Teamwork and experience take time to establish. Interpersonal relations (e.g., trust and corporate culture) are important explanatory variables in both Penrose's framework (1959) as well as current views of resource-based theory (Barney, 1986; Fiol, 1991). While the market determines the price (the outside value) of a productive resource, this price is not a measure of the (inside) value of the service of the resource to a firm. The inside value is a function of firm-specific experience, culture and teamwork. The inside value of experience is not easily ascertained by outsiders.

In fact, experience based learning may be considered the key variable for explaining firm heterogeneity -- which is arguably the most fundamental assumption of strategic management that diverges from economics models. Penrose (1959) provides a fundamental challenge to the economist's view of the firm -- a challenge that economists for the most part have ignored. Penrose argues that:

Experience ... develops an increasing knowledge of the possibilities for action and the ways in which action can be taken by ... the firm. This increase in knowledge not only causes the productive opportunity of a firm to change ... but also contributes to the 'uniqueness' of the opportunity of each individual firm (1959: 52-53).

We emphasize that identifying firms with similar resources in resource-based and strategic group research is not sufficient. Although firms may have similar resources, the services they can generate depend on the history of their use, experience of the past and present operations of the firm,

and thus vary from firm to firm. Competitive advantage often flows from the complex specificity of workplace knowledge gained through experience (Spender, 1992, 1993). Through long experience and commitment, formulation and implementation are crafted into a fluid process of learning (Mintzberg, 1990).

Since learning processes involve both firms and their competitors, these processes can have both homogenizing and differentiating outcomes. On the one hand, similarities among resource endowments drive managers to pursue similar environmental opportunities resulting in similar learning experiences. Observation of rivals' actions and their outcomes, lead to shared vicarious experience and learning. This learning results in meaningful similarities among firms. On the other hand, differential resource endowments (including differential information and knowledge bases), and differential experience and commitment, in combination, can result in differential rates of learning. Differential rates of learning, in a circular flow, result in further asymmetries in resources, information, and experience which result in firm heterogeneity and differential firm capabilities. This learning builds meaningful differences among firms. While these capabilities may be identified at the functional-level of the firm (e.g., R&D skill), they are often more meaningfully applied at the individual product-level (Bogner & Thomas, 1994).

Managerial experience is "both the accelerator and the brake for the growth process" (Starbuck, 1965: 490). An optimal growth trajectory for the firm involves a balance between exploitation of existing resources and the development of new resources and capabilities (Rubin, 1973; Wernerfelt & Montgomery, 1988). Clearly, the rate of exploitation and development of resources and capabilities is also a function of the time-horizon of the firm and the nature of environmental pressures (e.g., capital market influences).

At all times there exists within every firm, pools of unused productive services, and these, together with the changing knowledge of management create unique productive opportunities for each

firm (Chandler, 1990, 1992). Firms accumulate knowledge as a strategic resource through R&D and learning, some of it incidental to the production process (Helfat, 1994; Lieberman, 1987; Winter, 1987). Effective learning depends upon the acquisition, processing, storage and retrieval of such knowledge (Helleloid & Simonin, 1994).

New learning, such as innovations, are the stocks and flows of a firm's "combinative capabilities" (Kogut & Zander, 1992) that generate new ideas and artifacts from existing knowledge. These combinative capabilities are often platforms into new markets. The study of a successful organization may involve a circular flow: The accumulation and deployment of resources create a base for organizational learning. Conversely, organizational learning allows firms to increase their rate of resource accumulation and deployment (Senge, 1990)¹⁴.

Prescriptively, developing superior heuristics (Simon, 1991) and improving group decision-making and organizational learning processes for the purpose of accumulating and deploying resources may arguably be the heart of strategic management. **Descriptively**, strategic management involves a discovery procedure in which heterogenous mental models of managers using heterogenous resources are involved in an ongoing competition. This integrative perspective of strategy clearly emerges from a careful review of both the strategic group and resource-based literatures. Both literatures have moved toward the beginnings of a synthesis of cognitive, behavioral and economic approaches.

Mintzberg (1990) emphasizes the positional (Hatten, Schendel & Cooper, 1978; Porter, 1980), learning (Quinn, 1980; Weick, 1979) and cognitive (Simon, 1991) schools that we have considered in this paper. From our review of the resource-based and strategic group literatures, one can argue that these three schools may nurture each other. While the positional school informs the strategic group and resource-based analysis of tangible and intangible resources, the learning and cognitive schools highlight the subjective nature of these resources: the possibilities of using productive resources change with changes in knowledge. In the analysis of competitive advantage,

cognitive theories, behavioral theories and economic theories on resources and strategic groups need to be integrated. Crafting strategy requires that we begin to describe this complex relationship.

In conclusion, this paper provides three major themes for debate within strategic management and within organization science more generally:

[1] Greater understanding of concepts require an analysis of the origin, evolution and function of those concepts. This paper provides an analysis of the origin, evolution and function of both the resource-based and strategic group concepts.

[2] The resource-based concept of the firm as a collection of resources has interesting parallels with the strategic group concept in terms of origin, evolution and function of the concepts in strategic management research. A disciplined consideration of the origin, evolution and function of concepts may be fruitful for indicating other areas of parallel development in organization science.

[3] The development of the resource-based and strategic group concepts via economic, behavioral and cognitive research reflect the synthetic characteristic of strategic management as pragmatic inquiry¹⁵.

ENDNOTES:

1. Recent panels at SMS conferences and the 1993 national Academy of Management meeting in Atlanta, as well as recent papers (e.g., Barney, 1991; Dranove, Peteraf & Shanley, 1993; Thomas & Carroll, 1994) reflect the current debate in strategic management. Although Professor Barney has expressed pessimism about the usefulness of the strategic group concept at the 1993 Academy of Management meeting (a position that this paper takes issue with), it should be noted that Barney's (1991) analysis of resources at the firm-level also informs the strategic group concept.
2. Some of the variables that the S-C-P paradigm traditionally calls structural variables are considered strategic variables (or "conduct") in strategic management (e.g., vertical integration, diversification and product differentiation). Indeed, Porter (1980) refers to product differentiation as a "generic strategy".
3. While strategy has been concerned predominantly with firm-level performance measured by some form of economic rents, equity issues among various stakeholders in the firm and society at large, and public policy debates (e.g., industrial policy) are legitimate issues for strategy as pragmatic inquiry.
4. There have been a number of industries studied in the strategic groups literature including airlines (Carini & Walker, 1992; Peteraf, 1993c; Ryans & Wittink, 1985) banking (Amel & Rhoades, 1988, 1992; Hayes, Spence & Marks, 1980; Passmore, 1985), brewing (Carroll & Swaminathan, 1992; Hatten, Schendel & Cooper, 1978; Johnson & Thomas, 1987; Schendel & Patton, 1978; Tremblay, 1985), consumer goods (Oster, 1982; Porter, 1979), electronics (Ulrich & McKelvey, 1990), grocery (Lewis & Thomas, 1990), hospitals (Nath & Sudharshan, 1993), insurance (Fiegenbaum, 1987; Fiegenbaum & Thomas, 1990, 1993), microcomputers (Bauerschmidt & Chrisman, 1993), oil drilling (Mascarenhas, 1989; Mascarenhas & Aaker, 1989), pharmaceuticals (Bogner, 1991; Cool, 1985; Sudharshan, Thomas & Fiegenbaum, 1991), petroleum (Primeaux, 1985), retailing (Harrigan, 1985) as well as cross-industry studies (Caves & Pugel, 1980; De Bondt, Slevwaegen & Veugelers, 1988; Greening, 1980; Hergert, 1987; Kumar, 1990; Lawless, Bergh & Wilsted, 1989; Lawless & Tegardin, 1991; Martin, 1988; Newman, 1978).
5. Discussions on the methodology of clustering may be found in Aldenderfer and Blashtfield (1984), Everitt (1980), Friedman and Rafsky (1979), Funkhouser (1983), Hartigan (1975), Jain and Dubes (1988), Johnson (1993), Milligan (1980), Milligan and Cooper (1985), Punj and Stewart (1983), and Romesburg (1984), among others.
6. It is important to emphasize that while sunk cost investments (commitments) may be a key concept for explaining the persistence of rents ex post, it may be a grave mistake to suggest that firm rents can be expected ex ante from sunk cost commitments. Peteraf (1993a) notes that: " In deciding upon the optimum level of commitment, managers must weigh the value of sustainability, or the possibility of losing its position to other players, against the value of flexibility" (1993a: 578).
7. Barney and Hoskisson (1990) correctly note that group structure depends on the choice of which variables to include in an analysis (see also McKelvey, 1982). We maintain that the resource-based literature has begun to provide the theoretical base and the proper criteria for variable selection (Barney, 1991).
8. The importance of cognition has been emphasized by businessmen as well. Alfred P. Sloan noted that: "Every enterprise needs a concept of its industry. There is a logical way of doing business in accordance with the facts and circumstances of an industry, if you can figure it out. If there are different concepts among the enterprises involved, these concepts are likely to express competitive forces in their most vigorous and most decisive form" (1972: 63).

9. Managerial perceptions have been used to classify firms according to proposed taxonomies such as Miles and Snow's (1978) topology of defenders, prospectors, analyzers and reactors (see Hawes & Crittenden (1984) for an application to retailing and Zajac & Shortell (1989) for an application in a dynamic hospital environment). Gronhaug & Falkenberg (1989) find great discrepancies in self-evaluation and competitors' evaluation of Miles and Snow's (1978) four strategies. Arguably it is the perceived strategic groups that are instrumental in determining firm conduct in the short-run (Gripsrud & Gronhaug, 1985). Other taxonomies that have been deployed are Frazier and Howell's (1983) use of Abell's three dimensions of customer groups, customer functions and technologies to develop strategic maps, while Dess and Davis (1984) use Porter's (1980) generic strategies to analyze strategic groups. Kim and Lim (1988) find that top management perceptions of strategic groups in the electronic industry in Korea are based on the generic strategies of Porter (1980). Arguably, these cognitive taxonomies shared by industry members are enacted through environmental interactions (Bogner & Thomas, 1993; Newman, 1979; Weick, 1979). This research suggests that cognitive groups and economic-based groups interact in a circular flow.

10. Tang and Thomas (1992) note that depending upon assumptions about the utility function, consumer density, number of firms, entry patterns (e.g., sequential entry or simultaneous entry) and relocation costs, Hotelling's (1929) "principle of minimum differentiation" or local clustering may or may not hold (D'Aspremont, Jaskold-Gabszewicz & Thisse, 1979; Eaton & Lipsey, 1975; Economides, 1986; Prescott & Visscher, 1977). We note here that while the key variable for determining strategic groups in spatial competition models is "relocation costs" (i.e., switching costs), the key variable in the resource-based theory is "sticky resources" (Ghemawat, 1991) (i.e., switching costs).

11. Gales and Kamath (1993) argue that a firm's governance structure may be an important dimension for classifying intra-industry competition. It should be noted that a firm's governance structure and a firm's goals may be interrelated. For example, dispersed stock ownership may allow the firm to maximize its growth subject to a profit constraint, while concentrated ownership may lead to attempted profit maximization.

12. Kumar (1987) proposes a game-theoretic model of a monopolistically competitive industry and shows how strategic groups may arise even though firms are identical in cost structures and preferences based on the firms' objectives.

13. Simon (1982) contains a number of essays that attempt to provide simultaneous attention to economics and (behavioral and cognitive) psychology. For a discussion of the gap that exists between economics and psychology perspectives, see "Rationality as Process and as Product of Thought" (Simon, 1982, pp. 444-459).

14. While our **circular flow** thesis is warranted by the historical evidence (Chandler, 1990), a cautionary note is raised here. Some forms of learning and experience may not necessarily have market value. In fact, at some time the value of experience, if embedded in old technologies and recipes, may become negative.

15. The success of such a pragmatic research program (while demanding intellectually) will ultimately depend on the learned scientific attitudes of those in strategic management and the organization science community.

TABLE 1

CONTRIBUTIONS AND COMPARABLE CONCEPTS

THE FIRM-LEVEL OF RESOURCES

The Nature of Underlying Resources

Multiple resources constitute the resource-bundle from which a firm's strategy is defined.
Grant (1991); Wernerfelt (1984)

Resource bundles vary from firm to firm within an industry. Penrose (1959)

Strategies of firms vary because their resource-bases vary; firms grow and change based on resources and decision histories.
Andrews (1971); Collis (1991)

Issues of Competitive Advantage

Resources provide the basis for sustainable competitive advantage when competitors can neither acquire nor develop the same resources.
Barney (1991)

Rents are earned not necessarily because of better resources, but because of better use of resources.
Penrose (1959)

Managers use their resources to create or take advantage of opportunities. Teece, Pisano & Shuen (1993)

Firm-to-firm performance differences result from different resource-bases and different effectiveness of managerial responses.
Rumelt (1984)

Insights Gained by Analysis

Future actions constrained by firm-specific resources are captured in resource-based analysis.
Rumelt (1984); Wernerfelt (1984)

Strategies of firms reflect underlying skills and resources. Barney (1991); Wernerfelt (1984)

THE GROUP-LEVEL OF STRATEGIC GROUPS

Multiple resource dimensions are used in constructing strategic space and positioning the firm. Cool & Schendel (1987)

Groups of firms cluster around similar, but not identical resource bases. McGee & Thomas (1986)

Strategic group memberships vary because firms construct different isolating mechanisms to take advantage of different strategic options.
Lippman & Rumelt (1982); McGee & Thomas (1986)

Mobility barriers are isomorphic to isolating mechanisms and make competitive positions "stable and defensible" and are "tied to unique firm characteristics such as possession of idiosyncratic capital". McGee & Thomas (1986:153)

Economic profits of group members vary significantly within groups as well as between groups--how the competitive position is managed is as important as group membership. Cool & Schendel (1987)

Historical development and changes in the structure of an industry "bestows differential advantages/disadvantages on firms" based on their underlying resources. Porter (1979: 217)

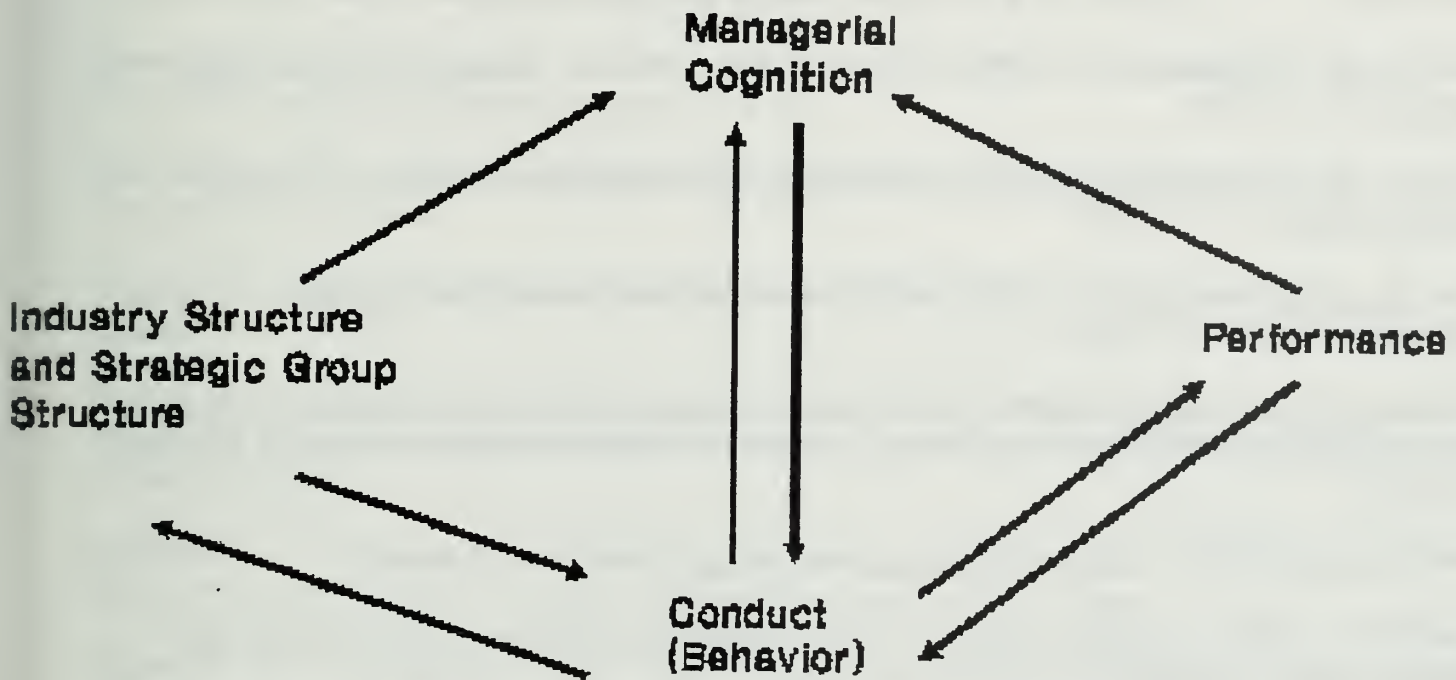
Performance variations may be found within groups due to managerial effectiveness. Bogner & Pandian (1992); Porter (1980)

Future actions are constrained by mobility barriers and isolating mechanisms that are constructed from firms' resources. Lippman & Rumelt (1982); McGee & Thomas (1986)

Strategies of group members help identify underlying skills and resources. Mascarenhas & Aaker (1989)

Figure 1

An Integrated Economic, Behavioral and Cognitive Perspective



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